

REMARKS

Claims 1-36 were pending in this application prior to this amendment.

Claims 1-36 were rejected.

Claim 4 has been amended.

Claims 1-36 are now in this application.

Reconsideration and allowance of claims 1-36 is respectfully requested.

Claim Objections

Claim 4 was objected to because of the informalities noted by the Examiner.

Applicant has amended Claim 4 to eliminate the problem noted by the Examiner.

Claim Rejections - 35 U.S.C. § 102

Claims 1-7, 10-16, 19-25 and 28-34 were rejected under 35 U.S.C. § 102(e) as being anticipated by Benveniste (U.S. Publication No. 2002-0163933-A1).

Applicant will first discuss independent claims 1, 5, 10, 14, 19, 23 and 28.

Subsequently, the dependent claims included in the above rejection, that is, claims 2-4, 6, 11-16, 20-22, 24, 25 and 29-34 will be address.

Applicant's invention provides a method and system to advance the scheduling of a next contention session upon premature termination of a contention free session. Applicant's system includes a Hybrid Coordinator that receives contending requests and that schedules a contention free window that has a specified ending time. Contending requests are not permitted during this contention free window. The Hybrid Coordinator detects if there is a pre-mature termination of wireless transmissions before the scheduled ending time of the contention free window. If a premature termination is detected, the Hybrid Coordinator communicates that subsequent contending requests are permissible.

The Benveniste reference discloses the use of a Tiered Contention Multiple Access (TCMA) protocol. The TCMA protocol schedules transmissions of different types of traffic based on their service quality specifications. The protocol described in the

Benveniste reference has a point coordination function (PCF). The PCF inter-frame space (PIFS) is used by the PCF to establish a contention free period.

Applicant's independent claim 1 recites, in part, a processor that is adapted to:

"receive contending requests forwireless transmission through a medium; ...
schedule an ending time of a time window during which subsequent contending requests are impermissible,
determine that one transmissionended before the scheduled ending time,.....
and communicates that subsequent contending requests are permissible even if made before the scheduled ending time."

In the Applicant's system, the Hybrid Coordinator is a device which can receive contending requests from wireless stations at the expenses of each other during medium contention intervals. (see Applicant's specification, page 2, lines 25-27). The timing diagrams of Figures 2A-2B show three contention requests transmitted from each of the wireless station STAX during the medium contention (MC) period.

The point coordination function (PCF) described in the Benveniste reference (see paragraphs 0038 and 0054) schedules an ending time of a time window and communicates the schedule ending time to a wireless station. However, as described in the Benveniste reference, this occurs during the use of PCF which is "a contention free centralized access protocol" (see paragraph 0038).

It is noted that the Examiner has cited paragraph [0042] and that the Examiner refers to the RTS frame described therein. However, the RTS frame disclosed in Benveniste is not the same as the contending request recited in claim 1. Claim 1 recites "contending requests for respective wireless transmission through a medium". The contending requests are reservation requests for use of medium sent from different wireless stations. The requests are contending in that they are at the expense of each other during the contention period.

The RTS frame is a mechanism for reserving the channel for point-to-point communication through exchanging of messages between the data source and the destinations. (See Benveniste paragraph [0041]). The RTS frame does not result from the communication between a source and a centralized node, such as the processor recited in Applicant's claim.

As stated in the Benveniste reference paragraph 0040:

"The PCF employs the DCF access mechanism to gain control of the channel. DCF uses Carrier Sense Multiple Access/Collision Avoidance (CSMA/CA). This requires each station to listen for other users and if busy postpone transmission by a random delay, known as backoff."

Thus, the Benveniste reference does not disclose the combination of limitations recited in Claim 1. That is, the Benveniste reference does not show a device that is (1) receiving contending request (2) scheduling an ending time (3) determining that a transmission has ended and (4) communicating that subsequent contending requests are permissible, as recited in Applicant's claim 1.

Applicant therefore respectfully requests reconsideration and allowance of Claim 1.

Applicant's independent claim 5 recites, in part, a processor adapted to:

receive data about a contention-free time window
receive notification that transmission of contention request will be permitted before the scheduled ending time; and
transmit request to contend for the medium before the scheduled ending time pursuant to the notification."

The Examiner states that Benveniste discloses receiving notification to transmit contending request before the scheduled time ends, citing the contention-free end frame 126 in paragraph [0054]. However, Applicant notes that the contention-free end frame disclosed in Benveniste is not used to notify the wireless stations to transmit contending requests. Instead, in Benveniste, the contention-free end frame is sent to notify the wireless stations to transmit CSMA/CA contention-based data frames during the contention period. See Benveniste paragraph [0120].

This is further illustrated in Figure 2B of Benveniste, in which a contention-free end frame is sent to signal the end of contention-free period 216 at T3 and the beginning of contention period 218 at T3-T4. During the contention period T3-T4, data frames are transmitted by wireless stations. There is no transmission of contending request during T3-T4.

Thus, Benveniste does not disclose or suggest in combination with receiving "data about a contention-free time window" a system that, as recited in claim 5 receives "notification that transmission of contention request will be permitted before the scheduled ending time"; and that transmits requests "to contend for the medium before the scheduled ending time pursuant to the notification".

Applicant therefore respectfully requests reconsideration and allowance of Claim 5.

Applicant's other independent claims, namely **independent claims 10, 14, 19, 23 and 28** have limitation similar to those discussed above relative to claims 1 and 5. Relative to Benveniste, there are limitations in these claims that distinguish the claimed combination from Benveniste for the same reasons as discussed above. Applicant, therefore, respectfully requests reconsideration and allowance of Claims 10, 14, 19, 23 and 28.

Dependent claims 2-4, 6, 11-16, 20-22, 24, 25 and 29-34 depend on independent claims 1, 10, 19, and 28 respectively. Since Benveniste does not teach all of the elements as set forth in the corresponding independent claims for the reasons explained above, Applicant respectfully requests reconsideration and allowance of dependent claims 2-4, 6, 11-16, 20-22, 24, 25 and 29-34.

Claim Rejections - 35 U.S.C. § 103

Claims 8-9, 17-18, 26-27 and 35-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste in view of Sherman (U.S. Publication No. 2002-0150095-A1).

It is noted that claims 8-9, 17-18, 26-27 and 35-36 are dependent claims. These claims therefore include all of the limitations recited in their parent claims.

Sherman discloses a technique to suppress interference for in a system using the 802.11 protocol. In the system shown in the Sherman reference, the source station transmits a message, such as a CF-End message to reset a network allocation vector to indicate the end of the period of time for suppressing transmission other than the time indicated by the duration value.

However, Sherman does not teach or suggest a system that performs the actions of (1) receiving contending requests (2) decode an ending time (3) determining that contending requests will be permitted and (4) transmit a contending request, as recited in Applicant's claim 5 upon which dependent claims 8 and 9 depend.

Likewise, the parent claims of the other dependent claims, rejected in paragraph 2 of the office, contain limitation not disclosed or suggested in Benveniste as described above. Furthermore, these limitations in the parent claims are not shown or suggested in the Sherman reference.

Applicant therefore respectfully requests reconsideration and allowance of dependent claims 17-18, 26-27, and 35-36.

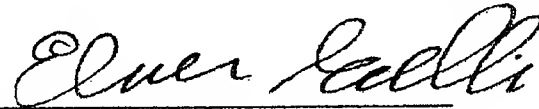
CONCLUSION

In summary, reconsideration and allowance of claims 1-36 as amended is respectfully requested.

The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.

A handwritten signature in cursive script, appearing to read "Elmer W. Galbi", written over a horizontal line.

Elmer W. Galbi
Reg. No. 19,761

MARGER JOHNSON & McCOLLOM, P.C.
1030 SW Morrison Street
Portland, OR 97205
503-222-3613
Customer No. 20575